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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,466	07/29/2003	Chi-Yu Yen	2019-0206P	4705

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EXAMINER
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FRIEDHOFFER, MICHAEL A

ART UNIT	PAPER NUMBER
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2832

DATE MAILED: 09/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/628,466

Applicant(s)

YEN, CHI-YU

Examiner

Michael A. Friedhofer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16-25 is/are allowed.
- 6) ☒ Claim(s) 1-13, 26 and 28-36 is/are rejected.
- 7) ☒ Claim(s) 14, 15 and 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-5, 9, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al.

Chen et al discloses in figures 1-3 a signal input device including an insulated bottom shell 14 having a top surface; a printed conducting track unit 13 comprising a plurality of contact portions; and an insulated top cover 10 covering the bottom shell. The top cover includes press units 11 carried in a top surface thereof. The press unit are aimed at and spaced above the contact portions of the printed conducting track unit for pressing by a user to selectively connect the contact portions of the conducting track unit. The press unit is formed on the top surface of the top cover and having a recessed portion in a bottom side thereof. The press unit protrudes over the top surface of the top cover. A plurality of conductive contacts are provided on a bottom side on the track unit above the contact portions on the track unit. A plurality of rubber domes 15 is supported on the top surface of the bottom shell above the conductive contacts of the track unit. A liquid guide 17 is provided on a bottom side of the top cover and

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extending to one through hole 18 of the top cover. A lamp is present but not shown with light guides which can be seen on the top shell.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 6, 8, 26, 28, 29, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Spratte.

Chen et al discloses all of the claimed limitations with the exception of the mounting of the light emitting diode and the placement of the conductive contacts directly on the bottom side of the rubber domes.

Spratte teaches a signal input device including domes mounted on mat 15 with contacts 8 over contact portions 6 with LED 17 mounted on the printed conductive track unit on the bottom shell.

It would have been obvious to one of ordinary skill in the art to apply the teachings of Spratte to Chen et al utilize LEDs connected to the track unit and that the conductive contacts are directly on the bottom side of the rubber domes because the mounting the LEDs on the track unit allows for easy connection to the switches and the circuitry and placing the contacts on the bottom of the rubber domes reduces the number of parts forming the keyboard. As for the connector to the keyboard extending through a hole in the top shell, this is a

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matter of engineering design choice where it is understood that a connector must be present and extend outside the shell in order for the device to be operable and the location of the opening would not alter its function or operation.

5. Claims 7 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al in view of Spratte as applied to claims 1-6, 8, 9, 26-30, and 36 above, and further in view of English et al.

Chen et al in view of Spratte discloses all of the claimed limitations with the exception of the IC chip connected to the printed conducting track.

English et al teaches a signal input unit which includes a printed conducting track over which rubber domes are located for operation by press units. Located on the printed conducting track are lamps, connectors, and IC chips for proper connection of the keyboard with the device to be controlled.

It would have been obvious to one of ordinary skill in the art to apply the teachings of English et al to Chen et al in view of Spratte to include the IC chips on the printed conducting track because this is for the purpose of centralizing operations while maintaining a desired size.

6. Claims 10-13 and 33-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al as modified by Spratte as applied to claims 1-6, 8, 9, 26, 28-30, 32, and 36 above, and further in view of Lima et al.

Chen et al as modified by Spratte teaches all of the claimed limitations with the exception of the method of connected the top shell to the bottom shell.

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Lima et al teaches in figures 1-4 a signal input device including a top shell 10 and a bottom shell 15 joined together by retaining ribs engaging in retaining grooves. It would have been obvious to one of ordinary skill in the art to apply the teachings of Lima et al to Chen et al as modified by Spratte to utilize retaining ribs and retaining grooves in the cover shell and the bottom shell because this is for the purpose for providing an easy connection between the shells for ease of assembly and disassembly. As for utilizing another method of connection such as the upright bonding portions, this would be a matter of engineering design choice not affecting the operation or function of the device and be based on the purpose and function in which the keyboard is being utilized as well as by the processes available to the manufacturer.

***Allowable Subject Matter***

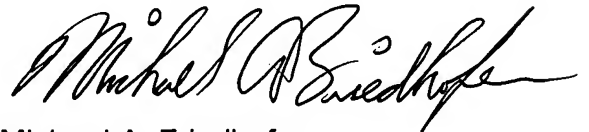
7. Claims 16-25 are allowed.
8. Claims 14, 15, and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Liang, Muller et al, Serizawa et al, Ono, Hein, and Morrison et al teach various signal generating structures.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Friedhofer whose telephone number is 571-272-1992. The examiner can normally be reached on Mon-Fri 6:00 - 2:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Michael A. Friedhofer", written in a cursive style.

Michael A. Friedhofer  
Primary Examiner  
Art Unit 2832

maf